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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/536,867 | 05/27/2005 | Hitoshi Mizuno | OMY-0045 | 4580 |
| 23353 7590 01/07/2008 RADER FISHMAN & GRAUER PLLC LION BUILDING 1233 20TH STREET N.W., SUITE 501 WASHINGTON, DC 20036 | | | EXAMINER ZHENG, LOIS L | |
| | | | ART UNIT 1793 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/536,867 | Applicant(s) MIZUNO ET AL. | |
| | Examiner Lois Zheng | Art Unit 1793 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-17 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>3/14/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Claims 1-17 are currently under examination.

Abstract

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because the abstract is more than 150 words. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2002-316258(JP'258).

JP'258 teaches a pressure controlling apparatus for regulating pressure of a molten metal storage container (abstract), wherein the pressure control apparatus comprises a pressurized gas tank (i.e. supply portion for supplying pressurized gas) (Fig. 2 # 71), an air hose (Fig. 2 # 57) connecting the pressurized gas tank and the molten metal container (Fig. 2 # 100) to provide flow passage for the pressurized gas, and a select valve (Fig. 5 # 80) connects between the air hose and the pipings for pressurized gas and vacuum (Fig. 5 # 72). The select valve is capable of switching a first mode that enables the passage of pressurized gas from the pressurized gas tank and the molten metal container and a second mode that enables the passage of gas from the container to the outside.

Regarding claim 1, the select valve as taught by JP'258 reads on the claimed first switching valve. The pressure controlling apparatus as taught by JP'258 anticipates the claimed pressure controlling apparatus.

Regarding claim 2, the claimed operation between the first mode and the second mode is directed to the manner of operation of the claimed apparatus (i.e. process limitation), therefore, does not render the claimed apparatus patentable.

Regarding claim 3, JP'258 further teaches the claimed at least one of a leak valve and a relief valve (Fig. 5 # 82, 86).

Regarding claim 4, JP'258 further teaches the claimed air tube connected to the container and the claimed filter (Fig. 5 # 57, 81).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP'258.

The teachings of JP'258 are discussed in paragraph 5 above. The pressurized gas tank as taught by JP'258 reads on the claimed tank for storing compressed gas.

JP'258 further teaches that a power generator needs to be installed when a gas compressor is mounted on the vehicle(paragraph [0016]).

Regarding claim 6, although the apparatus of JP'258 already has a pressurized gas tank and does not require a gas compressor, one of ordinary skill in the art would have find it obvious to have implemented a gas compressor driven by a power generator as taught by JP'258 in the pressure controlling apparatus of JP'258 in order to provide continuous or abundant supply of pressurized gas to the pressure controlling apparatus of JP'258 to avoid insufficient supply of pressurized gas to the molten metal container during transport. In addition, one of ordinary skill in the art would have also found it obvious to have used engine power to drive the generator as claimed since running engine has been long used as a simple and affective way to power on-broad equipment.

Regarding claim 7, JP'258 further teaches using a DC battery to power the transporting vehicle and the motor used for transporting the molten metal container (paragraphs [0105-0106]). Therefore, one of ordinary skill in the art would have also found it obvious to use a DC battery to power the compressor of JP'258 with expected success.

Regarding claim 8, the instant claim is rejected mostly for the same reasons as stated in the rejection of claims 1 and 6 above. In addition, JP'258 further teaches the claimed interface portion detachably disposed against the container(Fig. 5 #73, paragraph [0054]).

Regarding claim 9, the instant claim is rejected for the same reasons as stated in the rejection of claim 4 above.

Regarding claim 10, JP'258 further teaches the claimed hatch on a top surface of the molten metal container and the claimed interface portion detachably attached against a connecting portion on the hatch(Fig. 2 # 42, Fig. 5 # 166, 73).

Regarding claim 11, the instant claim is rejected mostly for the same reasons as stated in the rejection of claims 1 and 7 above. In addition, JP'258 further teaches the claimed interface portion detachably disposed against the container(Fig. 5 #73, paragraph [0054]).

Regarding claim 12, the instant claim is rejected for the same reasons as stated in the rejection of claims 1, 3-4, 6 and 8-9 above. JP'258 further teaches the claimed flow passage line between the pressurized gas tank and the air tube(Fig. 5 #49a).

Regarding claim 13, JP'258 further teaches the claimed second leak valve(Fig. 5 #86) located between the first leak valve(Fig. 5 # 82) and the interface portion(Fig. 5 #73).

Regarding claim 14, the instant claim is rejected for the same reasons as stated in the rejection of claims 1 and 12 above. JP'258 further teaches the claimed vacuum pump(Fig. 5 # 72), the claimed switch portion(Fig. 5 #80), and the claimed first, second and third lines(Fig. 5 # 49a-b and the piping between 80 and 73).

Regarding claim 15, JP'258 further teaches the claimed first leak valve and the claimed filter(Fig. 5 #86 and 81).

Regarding claim 16, although JP'258 does not explicitly teach the second leak valve between the switching portion and one end of the air tube and is connected to the third line as claimed, one of ordinary skill in the art would have found it obvious to add an additional leak valve to the line between the switching valve and the air tube in the apparatus of JP'258(i.e. third line) to complement the first leak valve on the line between the pressurized gas tank and the switching portion(i.e. first line) and the second leak valve on the line between the vacuum pump and the switching portion(i.e. second line) for fast relief of dangerous pressure build up in the molten metal container.

Regarding claim 17, the instant claim is rejected for the same reasons as stated in the rejection of claim 8 above.

Allowable Subject Matter

8. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record does not teach or fairly suggest, either alone or in combination the claimed pressure control apparatus further comprising the claimed second switching valve with the claimed first, second and third flow path connections.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lois Zheng whose telephone number is (571) 272-1248. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LLZ


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